

5. Menus

5.1 Pull-Down Menus

5.1.1 Appearance

A pull-down menu, shown in figure 5-1, consists of a title and a set of options from which users choose. The title describes the category or type of options presented in the menu. The title is different from the other menu titles in the menu bar and does not appear as an option in the menu itself. The title is a single word whenever possible and does not contain numbers. The first letter of each word is capitalized, except for prepositions and articles. If the title contains an acronym, it is capitalized. The title does not contain an ellipsis or a right-pointing arrow.

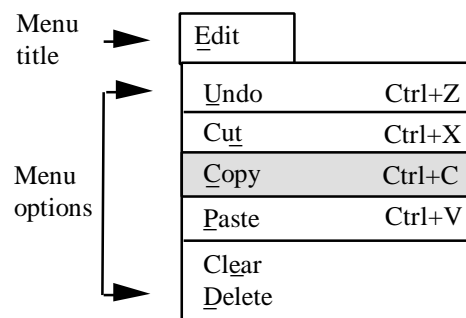


Figure 5-1. Example pull-down menu in MS Windows.

A pull-down menu includes options that perform actions, display a window (to request more information from users) or submenu, or specify a setting. Menu design guidelines are provided in section 5.5.

5.1.2 Behavior

Two methods are available for activating a pull-down menu option. In the first method, pressing BLeft on a menu title activates (i.e., displays) the menu; dragging the pointer to a menu option and releasing BLeft activates it and dismisses the menu. Dragging the pointer off the menu and releasing BLeft dismisses the menu without activating an option. In the second method, clicking BLeft on a menu title activates the menu; clicking BLeft on a menu option activates it and dismisses the menu. Moving the pointer off the menu and clicking BLeft dismisses the menu without activating an option.

Motif Only: Users can display a menu and activate a menu option using either BLeft or BRight.

MS Windows Only: Users can display a menu and activate a menu option using BLeft only.

F10 in Motif and ALT in MS Windows activate the menu bar, with focus on the first menu title.

Motif Only: LEFT and RIGHT navigate between menu titles, with wrapping from the last to the first title.

MS Windows Only: LEFT and RIGHT navigate between menu titles and the Control menu, with wrapping from the last to the first title. In an MDI application, LEFT and RIGHT navigate between menu titles, the Control menu in the parent application window, and the Control menu in the active child document window.

When a menu title has focus, DOWN and RETURN (and SPACE in Motif) display the menu, with focus on the first option. The arrow keys navigate between options, with wrapping from the bottom to the top option. RETURN (and SPACE in Motif) activates an option and dismisses the menu.

Motif Only: F10 deactivates the menu bar and returns focus to the object that previously had it. ESC dismisses the menu without activating an option and returns focus to the object that previously had it.

MS Windows Only: ALT dismisses the menu without activating an option, deactivates the menu bar, and returns focus to the object that previously had it. ESC dismisses the menu without activating an option; the menu bar remains activated, with focus on the title of the menu. ESC a second time deactivates the menu bar and returns focus to the object that previously had it.

5.2 Pop-Up Menus

5.2.1 Appearance

A pop-up menu, shown in figure 5-2, contains options that provide redundant access to frequently executed actions in a window. For example, pop-up menus with edit commands can be provided for the text boxes in a window so that users do not have to move the pointer to and from an Edit pull-down menu. Similarly, a pop-up menu containing frequently executed actions can be available in a window so that users do not have to move the pointer to and from the action area of the window.

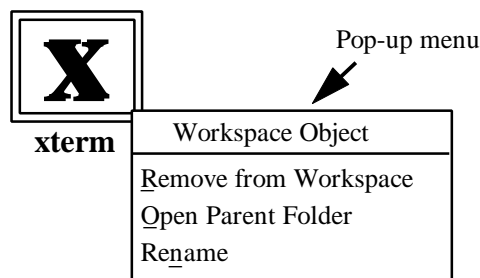


Figure 5-2. Example pop-up menu in Motif.

Motif Only: A pop-up menu includes a title describing the function performed by the menu or the object to which the menu relates. The title is centered at the top of the menu and separated from the first option by a separator line. The first letter of each word is capitalized, except for prepositions and articles; the title does not include a mnemonic, an ellipsis, or a right-pointing arrow.

MS Windows Only: A pop-up menu does not include a title.

A pop-up menu contains options that apply to the selected object and its current context. The options can perform actions, display a window (to request more information from users) or submenu, or specify a setting (see section 5.5). In general, options pertaining to the object to which the menu relates (e.g., Open, Save) are presented first, followed by edit options (e.g., Undo, Cut, Copy) and then by application-specific options; a separator delimits groups of related options.

When the pointing device is used to display a pop-up menu, the menu contents relate to the object under the pointer. When the keyboard is used, the menu contents relate to the object that has focus. In both cases, the pop-up menu is displayed to the right of the object and under the hotspot of the pointer.

5.2.2 Behavior

Two methods are available for activating a pop-up menu option. In the first method, pressing BRight on an object activates its pop-up menu (if one is available); dragging the pointer to an option and releasing BRight activates it and dismisses the menu. Dragging the pointer off the menu and releasing BRight dismisses the menu without activating an option. In the second method, clicking BRight on an object activates its pop-up menu; clicking BLeft or BRight on an option activates it and dismisses the menu.

Motif Only: Moving the pointer off the menu and clicking BLeft or BRight dismisses the menu without activating an option.

MS Windows Only: Moving the pointer off the menu and clicking BLeft dismisses the menu without activating an option.

Motif Only: Clicking BRight on an unselected object displays its pop-up menu but does not select the object; the action executed applies only to the object and not to any objects that might be selected.

MS Windows Only: Clicking BRight on an unselected object both selects it and displays its pop-up menu.

If a pop-up menu is available for the object with focus, SHIFT+F10 displays the menu. The arrow keys navigate between options, with wrapping from the bottom to the top option. RETURN (and SPACE in Motif) activates an option and dismisses the menu. ESC dismisses a pop-up menu without activating an option and returns focus to the object that previously had it.

5.3 Submenus

5.3.1 Appearance

A submenu, shown in figure 5-3, presents groups of related actions hierarchically. The submenu is positioned to the right of the parent menu or below it if space to the right is limited. The first option in the submenu is aligned with the right-pointing arrow in the parent option for the submenu. A submenu contains only the options in the menu and does not repeat the parent option as the first option in the submenu.

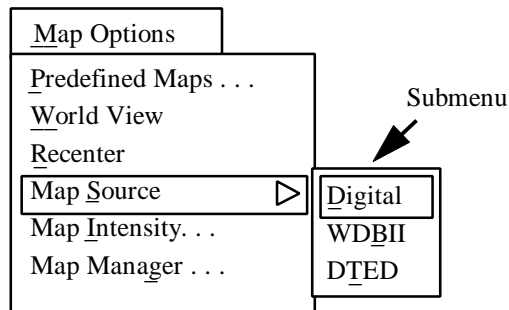


Figure 5-3. Example submenu in Motif.

5.3.2 Behavior

Dragging the pointer to the parent option for a submenu or clicking on the option activates the submenu. When the parent option has focus, RIGHT and RETURN (and SPACE in Motif) display the submenu, with focus on the first option. UP and DOWN navigate between options, with wrapping from the bottom to the top option. RETURN (and SPACE in Motif) activates an option and dismisses the submenu. LEFT dismisses the submenu without activating an option and returns focus to the parent option.

5.4 Tear-Off Menus (Motif Only)

5.4.1 Appearance

A pull-down menu, pop-up menu, or submenu provides a tear-off capability if users need to select repeatedly from the menu. A menu that can be torn off contains a tear-off button with a dashed-line graphic that is the first option in the menu, as shown in figure 5-4. The tear-off button behaves in the same manner as other options in the menu. When a tear-off menu is activated, focus is on the second option if the first option is the tear-off button.

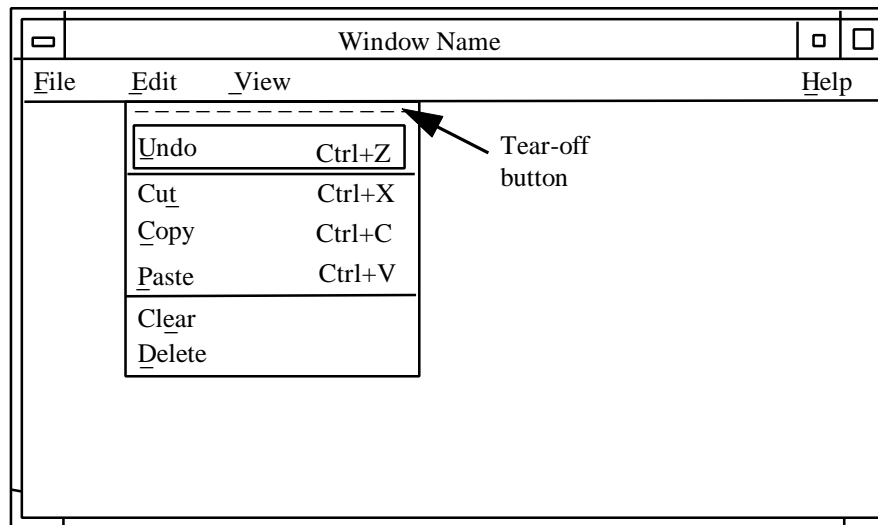


Figure 5-4. Example tear-off menu in Motif.

When users activate the tear-off button, the menu options are displayed in a menu window, as shown in figure 5-5. The window title is the same as the title of the associated menu; e.g. when an Edit menu is torn off, the title of the menu window is “Edit: Tear-off.” The options in the menu window perform the same functions, are in the same order, and have the same availability as the options in the original menu, except that the tear-off button is not displayed in the window.

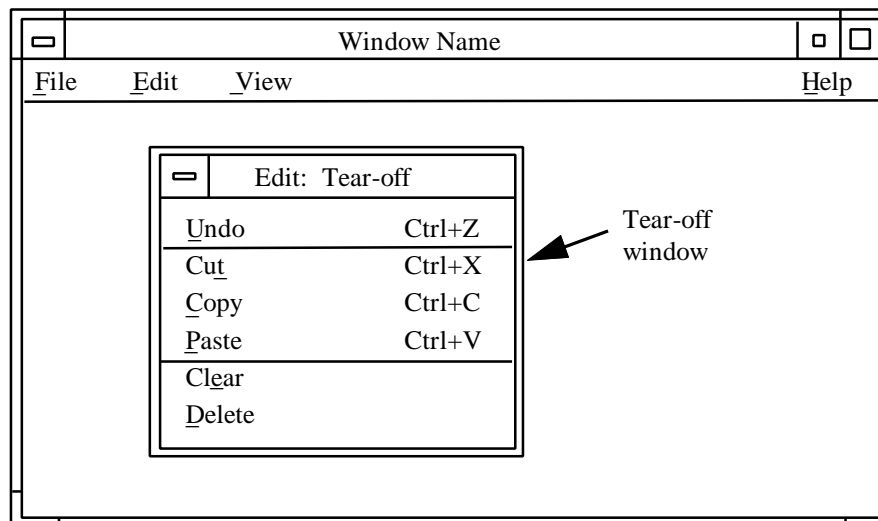


Figure 5-5. Example menu window in Motif.

5.4.2 Behavior

Clicking BLeft or BRight on the tear-off button activates the button, displays a menu window at the menu location, and dismisses the menu; dragging the tear-off button with BLeft displays a menu window, moves it to a new location, and dismisses the menu. In both cases, the first menu

option in the window receives focus. Clicking BLeft or BRight on an option activates it; the window remains displayed so that the menu options remain available for additional selections.

The arrow keys navigate to the tear-off button in a menu. RETURN and SPACE activate the button, dismiss the menu, display a menu window at the menu location, and assign focus to the first menu option. The arrow keys navigate between options, and RETURN and SPACE activate an option in the menu window.

A menu window is a modeless child window that is parented by the window containing the tear-off menu. The menu window can be moved but not minimized or maximized. A tear-off menu can be displayed while the menu window is open, and options can be activated from either the menu or the window. If the tear-off option in the menu is activated, the original menu window is closed and replaced with a new instance of the window. The menu window remains displayed until closed, either by selecting Close in its Control menu or pressing ESC when the window has focus.

5.5 Menu Design Guidelines

5.5.1 Types of Menu Options

Menu options can be actions that are executed immediately, routings that display a window or submenu, or settings that define parameters or specify an application state. Figure 5-6 illustrates these types of options. A routing option that requests additional information from the user is followed by an ellipsis (i.e., “. . .”). A routing option that displays a submenu is followed by a right-pointing arrow. An option that is a setting can be an action toggle (e.g., turn on/turn off) or a state toggle (e.g., select a font size).

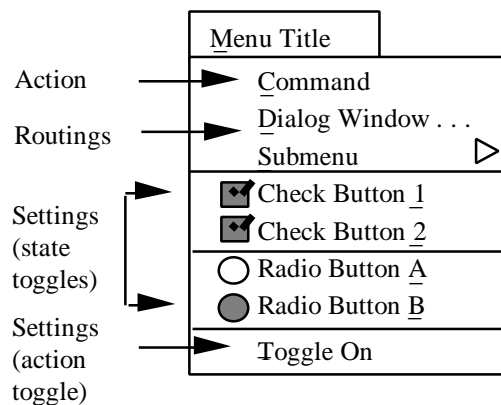


Figure 5-6. Examples of menu option types in Motif.

Options that are state toggles can be nonexclusive settings or exclusive settings. Nonexclusive settings are represented by check boxes; exclusive settings are represented by radio buttons.

Motif Only: When users activate an option in a set of nonexclusive settings, a check mark is placed in the check box indicator to the left of the option. When users activate an

option in a set of exclusive settings, the radio button indicator to the left of the option is filled. The indicator is not removed from the menu when the indicator is deselected.

MS Windows Only: When users activate an option in a set of nonexclusive settings, a check mark is placed to the left of the option. When users activate an option in a set of exclusive settings, a dot is placed to the left of the option. When the state of a setting is indeterminate (e.g., selected text includes both normal and bold font), the graphic is removed from all options for which the setting is indeterminate.

A menu option that is never available to users (e.g., system administrator commands) is not included in a menu. An option that is only temporarily unavailable is included in the menu but dimmed (as in figure 5-7) to indicate that it cannot be selected. While the wording of options may change (e.g., when an option is an action toggle), options are not added to or deleted from a menu to indicate their availability.¹

Motif Only: The parent option for a submenu is shown as available and activates (i.e., displays) the submenu even if all of the options in the submenu are unavailable.

MS Windows Only: The parent option for a submenu is shown as unavailable but activates the submenu even if all of the options in the submenu are unavailable.

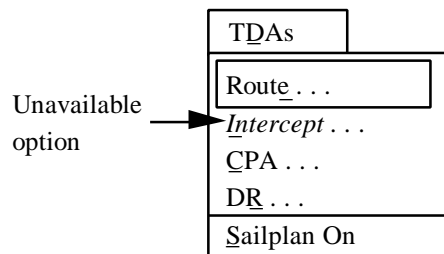


Figure 5-7. Example of an unavailable menu option in Motif.

If an option is designated as the default in a menu, it is displayed in a bold font. The default option performs the default action associated with an object; for example, if the default transfer operation in a pop-up menu for an object is to copy the object at a drop site, then the default option in the menu is Copy.

5.5.2 Format and Wording

Menu options are presented in mixed case, with the first letter of each word capitalized, except for prepositions and articles. If the option contains an acronym, it is capitalized. The menu is wide enough to accommodate the widest option and a shortcut key (if one is available) on a single line; long menu options are accommodated by making the menu wider rather than making the option take two (or more) lines.

¹ The inclusion of unavailable options in a menu is consistent with Motif and MS Windows but not with MIL-STD-1472E.

Options are phrased to reflect the action that is executed (i.e., phrased as a command to the application rather than as a question to the user), and worded in the vocabulary of users rather than that of the application developer. The application uses the vocabulary in appendix C when the actions listed are included in menu options.

Options that are action toggles are worded to reflect the action that is implemented when the option is activated. The wording is semantically congruent with natural usage; for example, if one toggle is worded “Move Object Up,” the other toggle is “Move Object Down,” not “Move Object Back.” When users activate one of these options (e.g., Turn On), the wording of the option in the menu changes (e.g., Turn Off) to reflect the action that will be implemented when the action is executed again. Only one of the action toggles appears in the menu at any time. If a multi-level Undo option (see section 3.6.6) is provided, the wording changes dynamically to reflect the action that can be undone. For example, if the most recently executed option is Cut, the option is worded “Undo Cut.”

Options that are state toggles are worded to describe the state being set (e.g., a series of font names). When users activate a state toggle, its select state changes but the wording of the option remains the same.

The wording of each option in a menu is consistent in grammatical style. For example, additions to an Edit menu containing actions such as Cut, Copy, and Paste are other verbs describing actions, rather than nouns describing objects or entities. Verbs are used as the first word in options to provide consistency and make the options easier to read and understand. If desired, supplementary information about an option can be provided in the status bar of the window; as the pointer is placed on an option, a description of the action executed by the option is displayed in the status bar.

5.5.3 Grouping into Menus and Submenus

A pull-down or pop-up menu contains no less than two or more than 15 options. The application divides menus with more than four options into groups based on function, with each group containing no more than four options (unless more are logical) and delimited by a separator between groups. If the options cannot be organized by function, they are ordered by frequency of usage, with the most frequently executed at the top of the menu and least frequently executed at the bottom. If an organization based on function or frequency of use is inappropriate, then the options are ordered alphabetically or in numerical order. Menu options that perform opposing actions (e.g., Save and Delete) are not placed adjacent to each other in order to reduce the likelihood of accidental selection of an incorrect action. If similar options are included in different menus, the options are ordered in a consistent manner in each menu.

If submenus are included in a menu, they are limited to two levels below the parent option and organized as shown in figure 5-8. If the number of submenus will exceed two levels, new menus are created or a dialog window is used. A submenu contains at least three options; if there are only two options, they are placed in the parent menu rather than in a separate submenu.

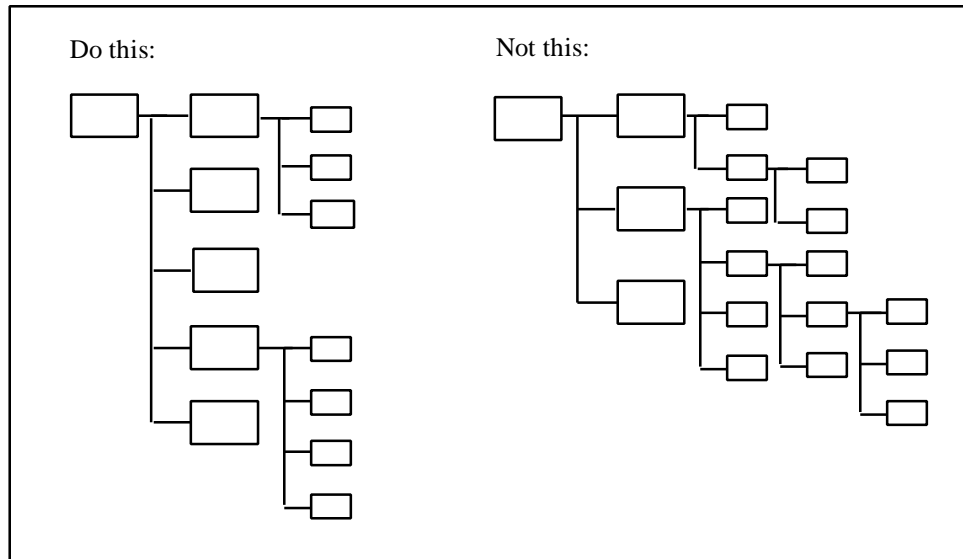


Figure 5-8. Organization of options in submenus.

5.5.4 Mnemonics and Shortcut Keys

The application provides a mnemonic for the titles in the menu bar and for the options in pull-down and pop-up menus. The characters selected as mnemonics in a menu bar and in each menu are unique, but the same character can be used as a mnemonic in different menus. A menu title or option has the same mnemonic whenever it appears in the application. Mnemonics are selected to produce minimal interference with each other. For example, the same character is not assigned as the mnemonic for options performing opposite or contradictory actions in different menus (e.g., C is not used as the mnemonic for Continue in one menu and Close in another).

The application provides shortcut keys for frequently executed actions in pull-down menus. Shortcut keys are included in a pop-up menu only if they are already present in the corresponding pull-down menu. If the application supports shortcut keys for menu options, the keys are left-aligned in a column to the right of the options in the menu. Mnemonics and shortcut keys are selected to be coordinate with each other. For example, if S is the mnemonic for Save, Ctrl+S is used as the shortcut key.

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